

S)-oxazolidinone alkylcarbamoyl intermediate of structural formula (III), an (S)-secondary alcohol of structural formula (IV), and an (S)-ester/protected alcohol of structural formula (V), or a salt or hydrate thereof or acceptable salts, hydrates, or pro-compounds thereof, wherein R<sup>1</sup> is optionally substituted aryl; R<sup>2</sup> is selected from  
5 the group consisting of C<sub>1</sub>-C<sub>20</sub> alkyl, C<sub>3</sub>-C<sub>7</sub> cycloalkyl, aryl optionally substituted with one or two C<sub>1</sub>-C<sub>3</sub> alkyl or halogen groups, allyl, 3-methylallyl, 3,3-dimethylallyl, vinyl, styrylmethyl, benzyl optionally substituted on the aryl with one or two Cl, C<sub>1</sub>-C<sub>4</sub> alkyl, nitro, cyano, or trifluoromethyl groups, 9-fluorenylmethyl, trichloromethylmethyl, 2-trimethylsilylethyl, phenylethyl, 1-adamantyl,  
10 diphenylmethyl, 1,1-dimethylpropargyl, 2-furanylmethyl, isobornyl, and hydrogen; R<sup>3</sup> is C<sub>1</sub>-C<sub>10</sub> alkyl; R<sup>4</sup> is H or C<sub>1</sub>-C<sub>5</sub> alkylcarbonyl; and X is halogen, alkylsulfonyl, or arylsulfonyl.

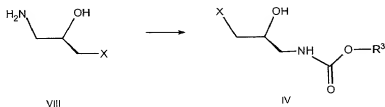
Another aspect of the present invention is to provide an (S)-epoxide of structural formula (II), an (S)-oxazolidinone t-butylcarbamoyl intermediate of  
15 structural formula (III), an (S)-secondary alcohol of structural formula (IV), and an

(S)-ester/protected alcohol of structural formula (V), or acceptable salts, hydrates, or pro-compounds thereof, in crystalline form, and a process of preparing these compounds in crystalline form.

One other aspect of the present invention, as shown in Scheme 4, is to

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Scheme 4.



provide a process for the preparation of an (S)-3-carbon carbamoyl alcohol of the structural formula (IV) which comprises (a) contacting a dialkyldicarbonate with an  
10 (S)-amino alcohol of formula (VIII) in the presence of a base, such as a tri(alkyl)amine. The (S)-3-carbon carbamoyl alcohol can be isolated in crystalline form after recrystallization.

Yet another aspect of the present invention, as shown in Scheme 5,

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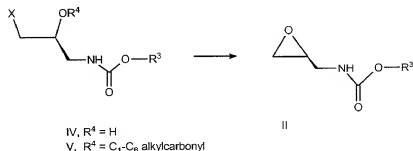
Scheme 5



is to provide a process for preparing a secondary protected-alcohol of structural  
20 formula (V) which comprises contacting an (S)-3-carbon amino alcohol of structural formula (IV) with an acylating agent and a base, such as a tri(alkyl)amine. The (S)-secondary protected-alcohol can be isolated in crystalline form after recrystallization.

Yet another aspect of the present invention, as shown in Scheme 6,

Scheme 6



- 5 is to provide a process for the preparation of a (S)-epoxide of structural formula (II) which comprises contacting an (S)-3-carbon amino alcohol of structural formula (IV) or (S)-secondary protected-alcohol of structural formula (V) with a base. The (S)-epoxide can be isolated in crystalline form after chromatography.

- 10 Another aspect of the present invention is to provide a process for the production of an (S)-oxazolidinone of structural formula (III) which comprises contacting a carbamate of structural formula (I) with an oxygenated amino reagent selected from the group consisting of an (S)-t-butylcarbonyl secondary alcohol of structural formula (IV), an (S)-t-butylcarbonyl epoxide of structural formula (II), or an (S)-t-butylcarbonyl ester of structural formula (V), in the presence of a lithium cation and a base whose conjugate acid has a pK<sub>a</sub> greater than about 8.

An additional aspect of the present invention, as shown in Scheme 7, is